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ABSTRACT

The purpose of this research was to investigate and describe the relationship of environmental change to superintendent-school board decision-making and superintendent turnover. Assuming the resource dependence model of organizational open system theory, researchers hypothesized that the amount of decision-making autonomy boards grant to superintendents and the mobility of superintendents would be related to the amount of turbulence in the community. To gather data for the study, two instruments were developed: (1) a 57-item questionnaire to measure superintendent-board expectations on the relative dependence or independence of the superintendent in various contexts; and (2) a commnity environment questionnaire with 12 questions illustrating important aspects of the relationship between community characteristics and environmental turbulence. A total of 273 school districts were surveyed with these instruments in 1979 and again in 1983. Data analysis suggests statistically significant relationships between the management process occurring in education (perceptions of superintendents and boards concerning the amount of discretionary authority in decision making that boards should grant to superintendents) and environmental turbulence within the community. (TE)

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# THE RELATIONSHIP BETWEEN ENVIRONMENT CHANGE AND SCHOOL BOARD EXPECTATIONS OF SUPERINTENDENTS' DECISION MAKING

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## The Relationship Between Environmental Change and School Board Expectations of Superintendents' Decision Making

The purpose of this research was to investigate and describe the relationship of environmental change to superintendent-school board decision making and superintendent turnover. Assuming the resource dependence model of organizational open system theory, it was hypothesized that the amount of decison-making autonomy boards grant to superintendents and the mobility of superintendents would be related to the amount of turbulence in the community.

### Introduction

This study began with questioning whether an apparent acceleration in superintendent turnover was related to the accelerated rate of change in the environments of the communities they served. A conceptual framework was developed for examining the possible effects of rapidly changing environmental conditions. The design of the study was developed with the acceptance that it was not only appropriate, but imperative, to consider the effect of the rapidly changing environmental factors on board-superintendent decision making and superintendent turnover.

## Theoretical Framework

Most recent organizational theorists are now working toward developing an understanding of organizations as open systems interacting with their environments. The concepts formulated by open-systems theorists--which include the notion that organizational issues cannot be assessed apart from the external dynamics of environmental factors and that the educational system must be seen as a part of a larger macro-system of "interlocking sectors" based on demographic, social, and economic requirements--served as the basis for this study.[1]

Management, then, from an open systems perspective, requires an approach different from that of a rational systems approach.[2] In an open system approach, the exchange relationship between the organization and its environment must be constantly monitored. Managers with an open systems perspective continually scan the environment for opportunities and threats, formulate strategic responses, and adjust organizational structure appropriately.[3] The organization needs the capability of neutralizing environmental constraints brought about by declining resources, or legitimacy, and to mobilize environmental resources for the attainment of organizational goals. Bridges that result in contracts, mergers, associations, or institutional linkages help mobilize these limited resources.[4]

The nature of the environment--its stability or turbulence--becomes a critical area of study. The open system seeks to maintain an equilibrium with the environment in order to preserve the character of the system.

Thus, a turbulent environment with rapid and unpredictable change produces stress within the organization and challenges boards and superintendents to use adaptive management approaches.

Over the past several years, studies have been done relating to both superintendent turnover and superintendent/school board congruence in decision making. The research to date on superintendent turnover has been confined to the investigation of two major themes.[5] One major theme, external in nature of turnover, based on the work of Iannoccone and Lutz,[6] stressed the political nature of turnover; the other theme, apparently more internal, searched for either personal characteristics or conflicts about expectations as the main reasons for superintendent dismissal.[7]

The research described here was undertaken to integrate both of these themes into a single research study and to investigate the relationship between these three factors: (1) superintendent turnover, (2) the amount of discretionary authority boards grant to their superintendents, and (3) changes occurring in the community environment.

The theoretical framework used as the basis for this study suggests that one would expect to find a negative relationship between accelerated environmental changes and the amount of discretionary authority boards grant to their superintendents.[8] It is also possible that boards vary, or change, the amount of autonomy in decision making they grant to their superintendents in direct relationship to environmental change. These changes result in less job satisfaction for superintendents. Thus, we

would expect to find that accelerated changes in the environment of the school district have a relationship to superintendent turnover.

## Method and Design

This study was developed as descriptive research, the purpose of which was to describe the perceptions of superintendents and board members in the state of Washington in 1983 concerning the amount of discretionary authority in decision making that school boards should grant to their chief administrator, and compare these perceptions to their 1979 perceptions recorded by Mukensnabl.[9] Thus, it could be determined whether boards were giving superintendents more or less discretionary authority in decision making in 1983 than they did in 1979. Furthermore, this study obtained data on variables in the community environment that were used to describe the level of turbulence created by changing conditions in the environment. In addition, the study describes the relationship between selected demographic variables used to determine the level of turbulence in the environment of the school district, and the amount of discretionary authority that boards grant to their superintendents. Finally, the data gathered in the study were used to describe the relationship between two variables: (1) amount of discretionary authority boards grant to their superintendents, and (2) measured turbulence created by changes in the community environment and superintendent turnover. With this knowledge, higher educational institutions would be able to provide appropriate training to

superintendents and boards to better deal with the rapid changes in the environment.

## Study Hypotheses

Three objectives served as the focus of the study. The first objective was to measure boards' and superintendents' perceptions in 1983 concerning the amount of discretionary authority in decision making that boards should grant to their superintendents, and to compare these results to those obtained by Mukensnabl in 1979 when he surveyed the same population with the Decision Analysis Document (DA$^{n}$D). The second objective was to measure the amount of turbulence within the community environment and determine if there was a relationship between turbulence and the changes in the boards' and superintendents' perceptions concerning the amount of discretionary authority boards should grant to their superintendents. Finally, the third objective was to describe the relationship of the amount of discretionary authority in decision making boards grant their superintendents, and the turbulence created by changes in community environment to superintendent turnover.

In order to analyze the data collected in the study, five hypotheses were formulated to answer the original three questions. These hypotheses were:

1. There is no significant difference in the means of school board members by district on the Decision Analysis Document (DA$^{n}$D) in 1979 and 1983.

2. There is no significant difference in the means of the scores of superintendents on the DA$^{n}$D in 1979 and 1983.

3. There is no significant relationship between boards' mean 1983 DA$^{n}$D scores (amount of discretionary authority boards grant to their superintendents) and the total CEQ score (environmental turbulence).

4. There is no significant relationship between the superintendents' 1983 DA$^{n}$D expectation score and the total score on the CEQ.

5. There is no significant relationship between the following three variables: (a) 1979-1983 Change in Boards DA$^{n}$D Score, (b) 1983 CEQ Total Score, and (c) 1979 Boards Mean DA$^{n}$D score, and superintendent turnover.

Hypothesis 1 and 2 were tested by a t-test. Hypotheses 3 and 4 were tested by the use of bivariate correlation and step-wise multiple regression. Hypothesis 5 was tested by multiple regression analysis.

## Instrumentation

In order to gather the data for the study, two instruments were developed by Mukensnabl in 1970.[10] The DA$^{n}$D is a 57-item questionnaire that uses a scale from 1 to 4 (1 superintendent should be independent, 4 dependent on the board) to measure the superintendent-board expectations. In addition, the computer tape containing the 1979 raw data collected by

Mukensnabl was made available for the study. It was necessary to use the same data collection questionnaire without altering it in order to measure a "change" in the boards and superintendents perceptions from 1979 to 1983 concerning the amount of discretionary authority that boards granted to their chief administrators.

Thus, the first instrument used for data collection, the 57-item Decision Analysis Document (DA$^n$D), remained unchanged and the same DA$^n$D sent to superintendents and board members in 1979 was sent in 1983. To obtain data on superintendent turnover, superintendents were asked to record the year they became superintendents in their present districts. This was included, along with other demographic questions at the top of the DA$^n$D sent to superintendents.

The second instrument was the "Community Environment Questionnaire" (CEQ). This questionnaire was designed and field tested by Andrews, University of Washington, 1976. It consisted of 12 questions designed to obtain fourteen bits of information. The questions were not designed to be exhaustive, but to be illustrative of some of the important dimensions of the relationship between community characteristics and environmental turbulence. A value score of 0, 1, or 2 was assigned for each of the 14 variables measured. The lowest obtainable score on the CEQ was 0 and the highest obtainable score was 28. For purposes of this study, a low score of 10 was considered indicative of more placid environments (little, if any, change in the environment); and a high score of 28 was indicative of the most turbulent environment (extreme changes in environmental forces).

As the amount of turbulence (created by changes in environmental forces) in the environment increased, the total CEQ score (measuring turbulent factors in the environment) increased accordingly.

## Population

The population for this study consisted of 273 school districts in the state of Washington whose chief administrators held a title of superintendent in 1979 and 1983. Of the 273 school boards surveyed in 1979, responses were received from one or more district school board members in 266 of these school districts (91%). In 1983, these same 273 school districts were surveyed and responses were received from one or more school board members in 265 of these school districts (97.1%).

In all, 218 superintendents (80%) returned the completed DA$^n$D. However, of this group only 201 (74%) also returned the CEQ, and of those returned only 174 (64%) were fully completed and therefore usable. Because several superintendents failed to complete a number of the questions a CEQ total score for those districts could not be computed and they were eliminated from the analysis.

In order to test the analysis in this study, a 1979 and a 1983 average DA$^n$D score was calculated for all boards. The mean DA$^n$D score was based on the responses of 266 board members in 1979 and 265 board members in 1983. A t-test was used to examine the difference between the 1979 boards' mean DA$^n$D score and the 1983 boards' mean DA$^n$D score (Hypothesis 1).

A DA$^{n}$D score was calculated for all the 241 superintendents who responded in 1979 and for the 218 superintendents who responded in 1983. A t-test was used to examine the difference between the 1979 superintendents' mean DA$^{n}$D score and the 1983 superintendents' mean score.

In an attempt to isolate and describe areas of change, where significant differences were found in boards' perceptions of superintendent decision-making autonomy between 1979 and 1983, the 57 items in the DA$^{n}$D were separated into four subgroups. The four subgroups were:

| Subgroup | Description of Subgroup |
|---|---|
| 1 | Curriculum/Student Concerns (N = 10 items)<br>Items 1, 2, 8, 12, 25, 32, 37, 41, 54, 57<br>Reliability analysis: Alpha = .648 |
| 2 | Student Scheduling/Boundaries/Attendance/Busing<br>(N = 10 items)<br>Items 6, 11, 13, 17, 33, 34, 39, 49, 51, 52<br>Reliability analysis: Alpha = .645 |
| 3 | Personnel (N = 24 items)<br>Items 3, 4, 7, 10, 14, 18, 19, 20, 21, 22, 26, 30, 31, 35, 38, 42, 44, 45, 46, 47, 48, 50, 53, 55<br>Reliability analysis: Alpha = .869 |
| 4 | business/Facilities/Maintenance (N = 13 items)<br>Items 5, 9, 15, 16, 23, 24, 27, 28, 29, 36, 40, 43, 56<br>Reliability analysis: Alpha = .751 |

The same procedures were used for the calculation of subpart mean scores as was used for the calculation of total scores. The results of these analyses for 1979 and 1983 school board responses are presented in Table 1.

Table 1
Pairwise Comparison of 1979 and 1983 Boards Mean Scores
on Each of the Four Subparts

| | Year | Districts N of Cases | Mean | SD | T-Value | 2-tail Probability | |
|---|---|---|---|---|---|---|---|
| Total Score | 79 | 266 | 2.7235 | .255 | 3.13 | .002 | ** |
| | 83 | 265 | 2.6580 | .226 | | | |
| Subpart A (Curriculum /Student Concerns) | 79 | 266 | 2.5452 | .329 | .69 | .491 | |
| | 83 | 265 | 2.5266 | .292 | | | |
| Subpart B (Student Scheduling/ Boundaries/ Attendance/ Busing) | 79 | 266 | 2.8668 | .291 | 2.94 | .003 | ** |
| | 83 | 265 | 2.7949 | .274 | | | |
| Subpart C (Personnel) | 79 | 266 | 2.6473 | .287 | 2.73 | .007 | ** |
| | 83 | 265 | 2.5819 | .265 | | | |
| Subpart D (Business/ Facilities/ Maintenance) | 79 | 266 | 2.3908 | .265 | 4.13 | .000 | ** |
| | 83 | 265 | 2.7945 | .259 | | | |

** Significant at .01 or less

As presented in Table 1, there was a significant difference in the mean score on the DA$^{n}$D when comparing board members' responses in 1983 with board members' responses in 1979. On the average, when comparing board responses in 1983 to board responses in 1979, 1983 boards perceived they should grant to their superintendents more discretionary authority in decision making ($\bar{X}$ = 2.658) than 1979 boards perceived should be granted to superintendents ($\bar{X}$ = 2.724) ($t$ = 3.13, $p$ = .022).

To further examine the nature of this difference, subpart scores were compared for (A) Curriculum/Student Concerns, (B) Student Scheduing/ Boundaries/Attendance/Busing, (C) Personnel, and (D) Business/Facilities/ Maintenance. The results of this analysis suggest that on the average, 1983 boards tended to allow superintendents more discretionary authority (independence) in all areas (A, B, C, D) in 1983 than they did in 1979. However, the difference was significantly greater in B ($t$ = 2.94, $p$ = .003), C ($t$ = 2.73, $p$ = .007), and D ($t$ = 4.13, $p$ = .000); but was not significantly different in A (Curriculum/Student Concerns).

The analysis of mean scores for DA$^{n}$D scores for superintendents in 1979 and 1983 are presented in Table 2.

Table 2
A Pairwise Comparison Between
1979 and 1983 Superintendents DA$^{n}$D Mean Scores

| Supts. | Year | N of Cases | Mean | SD | t-Value | 2-tail Probability |
|---|---|---|---|---|---|---|
| Group 1 | 79 | 241 | 2.490 | .338 | .39 | .698 |
| Group 2 | 83 | 218 | 2.478 | .315 | | |

As presented in Table 2, the mean score for superintendents in 1983 did not differ significantly from the mean score for superintendents in 1979. The mean scores for superintendents in both 1979 (X = 2.490) and 1983 (X = 2.478) were lower than the mean scores for boards in 1979 (X = 2.724) and 1983 (X = 2.658). On the average, superintendents perceive they have more discretionary authority (or independence) in decision making than boards perceive they should be granted. Since no significant difference was found on the overall mean scores, no analysis was done on subpart scores.

To test the hypotheses concerning the relationship between decision autonomy and environmental turbulence, the level of environmental turbulence (total CEQ score) was calculated for those districts (N = 174) whose superintendents returned a fully completed Community Environmental Questionnaire (CEQ). Pearson correlation coefficients were used to examine the relationship between: (1) the boards' 1983 DA$^{n}$D mean score and environmental turbulence (total CEQ score) for Hypothesis 3; and

(2) superintendents 1983 DA$^{n}$D mean score and environmental turbulence (total CEQ score) for Hypothesis 4. Where significant differences were found, bivariate correlations were used to examine and describe the relationship between each of the 14 variables in the CEQ and 1983 boards' and superintendents' mean DA$^{n}$D scores. The results of this anaylsis are presented in Table 3 and Table 4.

Table 3
Correlation Between 1983 Boards' Discretionary Authority They Should Grant Superintendents and Environmental Turbulence

| | | Total 57-items | Curriculum Student Concerns Subpart A | Student Scheduling Boundaries Attendance Busing Subpart B | Personnel Subpart C | Business Facilities Maintenance Subpart D |
|---|---|---|---|---|---|---|
| Total CEQ | r = | - .1890 | -.0134 | -.1472 | -.2306 | -.1560 |
| | n = | (165) | (165) | (165) | (165) | (165) |
| | p = | .008** | .432 | .030* | .001** | .023* |

** Significant at .01 level

* Significant at .05 level

As presented in Table 3, there was a low, but statistically significant (p = .008), negative correlation (r = -.1890) between 1983 boards' perceptions of the amount of discretionary authority (independence) they should grant their chief executives in decision making and environment turbulence,

as measured by the CEQ. These results indicate that boards perceive they should grant their chief executives more discretionary authority (lower mean DA$^{n}$D score) as turbulence increases in the community environment. There was also a very weak, but statistically significant relationship between the total CEQ score (environmental turbulence) and three of the four subparts (B, Student Scheduling/Boundaries/Attendance/Busing; C, Personnel; D, Business/Facilities/Maintenance).

A step-wise multiple regression was performed on the data to further examine the "independent" contribution of each variable in the CEQ to the overall negative correlation ($r = -.1890$, $p = .008$) of the total CEQ score to the 1983 board's DA$^{n}$D mean score. These data are presented in Table 4.

Table 4
Summary Table for Regressions of CEQ Variables to 1983
Board DAnD Mean Score
(N = 146)

| Variable | Multiple R | $R^2$ | $R^2$ Change |
|---|---|---|---|
| Stability of Social Stratification Mix | .2722 | .0741 | .0741 |
| Community Total Population | .3149 | .0992 | .0251 |
| High Government Positions Filled by Partisan or Nonpartisan Procedures | .3480 | .1211 | .0219 |
| Rate of Involvement of Elite Groups in Community Affairs | .3567 | .1272 | .0062 |
| Ratio of Wealthy to Poor | .3598 | .1295 | .0022 |
| Average Level of Educational Attainment of Community | .3610 | .1303 | .0008 |
| Voluntary Organizations Existing in Community | .3619 | .1310 | .0006 |
| Diversity of Community Economic Structure | .3627 | .1316 | .0006 |
| Population Change | .3634 | .1321 | .0005 |
| Extent of Participation in Volunteer Organizations in Community | .3637 | .1323 | .0002 |
| How Pluralistic are the Value Systems of Community Members | .3641 | .1325 | .0002 |
| Degree of Labor Union Organization | .3641 | .1325 | .0002 |
| Involvement of Business Elites in Community Activity | .3642 | .1326 | .0001 |

As can be seen in Table 4, only 13 per cent of the variance in the 1983 board DAnD mean score can be accounted for by the CEQ ($r^2$ = .1326). However, most (92 per cent) of the DAnD variance accounted for by thc CEQ can be attributed to three variables: (1) Stability of Social Stratification, (.0741), (2) Total Community Population (.0251), and (3) filling of High Government Positions (.0219).

In order to test hypothesis 4, a bivariate correlation was calculated between the district CEQ score and superintendents' DAnD scores of 1983. The results of this analysis are presented in Table 5.

Table 5
Pearson Correlation Coefficients for Describing the Relationship Between Amount of Discretionary Authority 1983 Superintendents Perceive They Should Grant Superintendents and Environmental Turbulence

| | 57-items | Subpart A | Subpart B | Subpart C | Subpart D |
|---|---|---|---|---|---|
| | r = - .1864 | -.0719 | -.0673 | -.2114 | -.2018 |
| Total CEQ | n = (154) | (154) | (154) | (154) | (154) |
| | p = .010** | p = .188 | p = .203 | p = 004** | p = 006** |

** Significant at .01 level or less

As presented in Table 5, there was a low, but statistically significant ($p = .01$) negative correlation ($r = -.1864$) between 1983 superintendents' perceptions of the amount of discretionary authority (independence) in decision making they should be granted, and environment turbulence as measured by the CEQ. These results indicate that superintendents perceive they should be granted more discretionary authority (independence) in decision making as turbulence increases in the community environment. There was also a very weak, but statistically significant relationship between the total CEQ score (turbulence) and two of the four subparts (C, Personnel [$r = -.2114$, $p = .004$], and D, Business/Facilities/ Maintenance [$r = -.2018$, $p = .006$]).

A step-wise multiple regression was performed on these data to further examine the "independent" contribution of each variable in the CEQ to the overall negative correlation ($r = -.1864$, $p = .01$) of the total CEQ score to the 1983 superintendents' DAnD mean score. The analyses of these data are presented in Table 6.

Table 6
Summary Table for Regressions of CEQ Variables to 1983
Superintendent DAND Mean Score
(N = 154)

| Variable | Multiple R | $R^2$ | $R^2$ Change |
|---|---|---|---|
| Diversity of Community Economic Structure | .2089 | .0407 | .0407 |
| Extent of Participation in Volunteer Organizations in Community | .2727 | .0744 | .0336 |
| Community Total Population | .3029 | .0918 | .0174 |
| How Pluralistic are the Value Systems of Comm. Members | .3184 | .1014 | .0094 |
| Ratio of Wealthy to Poor | .3346 | .1119 | .0105 |
| Rate of Involvement in Elite Groups in Comm. Affairs | .3405 | .1160 | .0040 |
| Industry | .3475 | .1207 | .0048 |
| Degree of Labor Union Organization | .3532 | .1248 | .0041 |
| Involvement of Business Elites in Community Activity | .3558 | .1266 | .0018 |
| Voluntary Organizations Existing in Community | .3575 | .1278 | .0012 |
| High Gov't. Positions filled by Partisan or Nonpartisan Procedures | .3589 | .1288 | .0010 |
| Average Level of Educational Attainment of Community | .3603 | .1298 | .0010 |
| Population Change | .3613 | .1305 | .0007 |
| Stability of Social Stratification Mix | .3618 | .1308 | .0004 |

As can be seen in Table 6, only 13 per cent of the variance in the 1983 superintendent DA$^n$D mean score was accounted for by the CEQ ($r^2$ = .1308). The variance due to Economic Diversity (.0407), Community Participation in Voluntary Organizations (.0036), and Total Community Populatior (.0174) accounts for 70 per cent of the variance that was attributable to the CEQ scores.

To test Hypothesis 5 required the following data for each case used in the analysis:

1. 1979 board average DA$^n$D score for district,
2. 1983 board average DA$^n$D score for district,
3. 1983 CEQ total score for district,
4. Year of appointment in the district.

Because of these restrictions, the number of cases used in this analysis was reduced to 146. Multiple regression was used to examine and describe the relationship between the three independent variables ([1] 1979-1983 change in boards' DA$^n$D score; [2] 1979 boards' mean DA$^n$D score; and [3] 1983 CEQ total score) and the dependent variable (1979-1983) superintendent turnover.

Mobility data for superintendents were generated from the question that asked when they were appointed as superintendent in their current position. These data indicated that 46 per cent of the 218 superintendents responding to the DA$^n$D were in a position in 1983 different from their position in

1979. The means, standard deviations, and results of this analysis are presented in Table 7.

Table 7
Means, SDs, and t-test results of Three Independent Variables for School Districts with the Same or Different Superintendent in 1983

| | Superintendent (N = 146) | | | |
|---|---|---|---|---|
| | Same (N = 82) | Different (N = 64) | T-Value | Sig. |
| 1979-1983 Change in Boards Score | .002 (.237) | -.103 (.291) | 2.401 | .0176 * |
| 1983 CEQ Total Score | 16.82 (2.515) | 16.28 (2.236) | 1.341 | .0822 |
| 1979 Boards Average Score of 57 Items on DAnD | 2.69 (.221) | 2.77 (.270) | 1.994 | .0481 * |

$p < .05$

As can be seen in Table 7, there were significant differences in the data of districts that had a superintendent in 1983 different from the superintendent in 1979. First, districts with a different superintendent in 1983 (superintendent turnover since 1979) had a significantly higher ($p = .05$) DAnD mean score in 1979 than did those districts that had the

same superintendent. Second, those districts with a different superintendent in 1983, (superintendent turnover since 1979) had a significantly greater ($p = .02$) change in boards' perceptions of the amount of discretionary authority (independence) in decision making that superintendents should be granted.

Further, there were significant differences in both board changes scores ($t = 2.401$, $p = .018$) and board average scores ($t = 1.994$, $p = .048$) in districts where the superintendents were in the same position in 1983 as they were in 1979, and those in which there was a different superintendent. The level of environmental turbulence within the community as measured by the CEQ, while somewhat lower in those districts that changed superintendents between 1979 and 1983, was not statistically significant ($p = .08$) from those districts with no change in the superintendency.

An examination of the 1979 board DA$^n$D mean scores for these two groups of superintendents reveals that the mean score on the DA$^n$D for boards where the superintendent had remained in the same position was significantly lower ($p = .048$) than the mean score on the DA$^n$D for boards whose superintendents had changed positions. Based on these data, it appears that superintendents had left districts where boards had more restricted views of their decision-making autonomy; whereas, superintendents had tended to remain in districts where they were given more decision-making autonomy.

Boards that had experienced a change (turnover) of superintendents had significantly lower mean scores in 1983 on the DA$^{n}$D than on their 1979 DA$^{n}$D. Seemingly, boards that have experienced a turnover in the superintendency since 1979 have granted to their new superintendent more decision-making autonomy (lower 1983 DA$^{n}$D mean score). An examination of the means in Table 7 provides a description of these two groups of superintendents.

Multiple regression was used to examine and describe the relationship of the three independent variables (Change in Boards DA$^{n}$D Expectancy Scores, CEQ Score, and 1979 Board DA$^{n}$D Score) to the dependent variable (Superitendent Turnover). The correlation coefficients for the three independent variables to the dependent variable (superintendent--same/different in 1983) are presented in Table 8.

Table 8
Correlation Coefficients Among Independent Variables and Dependent Variables
(N = 146)

| | Superintendent Mobility | Change in Boards' DAND Expectancy Scores (1979-83) | CEQ Total Score | 1979 Board Type-DAND Average |
|---|---|---|---|---|
| Superintendent Turnover | 1.000 | | | |
| Change in Boards DAND Expectancy Scores (1979-83) | -.196 | 1.000 | | |
| CEQ Total Score | -.111 | -.023 | 1.000 | |
| 1979 Board DAND Score | -.164 | -.700 | -.111 | 1.000 |

The data presented in Table 8 indicates there was a low correlation between each of the three independent variables and the dependent variable (Superintendent Mobility). However, further analysis was performed to determine the amount of variation in the dependent variable (Superintendent Mobility) that could be accounted for from these three independent variables. The results of the multiple regression analysis are presented in Table 9.

Table 9
Summary Table for Regressions of the
Three Independent Variables

| Variable | Multiple R | $R^2$ | $R^2$ Change |
|---|---|---|---|
| 1979-1983 Changes in Board Score | .1962 | .0385 | .0385 |
| 1983 CEQ Total | .2277 | .0519 | .0134 |
| 1979 Boards DAND Mean Score | .2281 | .0520 | .0001 |

The data in Table 9 indicate that only 5 per cent of the variance of whether the superintendent remains in the same district can be accounted for by the three predictor variables in the regression equation.

Since the data indicated that only a small percentage (5.2 per cent) of the variance in the dependent variable could be attributed to the three independent variables, it appears that there are other variables that account for the variation in superintendent turnover.

## Results

Data analysis suggests that: (1) Between 1979 and 1983 school boards significantly ($p = .02$) changed their perceptions of the amount of discretionary authority in decision making they could grant to their chief executives; (2) Superintendents' perceptions in 1983 did not differ significantly from their perceptions in 1979; (3) There was a low, but statistically significant ($p = .008$), negative correlation ($r = -.189$) between 1983 boards perceptions of the amount of discretionary authority (independence) in decision making and environmental turbulence; (4) There was also a low, but statistically significant ($p = .01$) negative correlation ($r = -.1864$) between 1983 superintendents' perceptions of the amount of discretionary authority (independence) in decision making they should be granted and environmental turbulence; and (5) Districts in which superintendent turnover had occurred since 1979 had a significantly higher ($p = .05$) DAⁿD mean score in 1979 than did these districts that had the same superintendent. Second, those districts also had a significantly greater ($p = .02$) <u>change</u> in boards' perceptions of the amount of discretionary authority (independence) in decision making that supe-intendents should be granted.

## Implications

In general terms, school boards in Washington State have significantly changed their perceptions of the amount of discretionary authority in decision making that they should grant to their chief executives. The change has tended to be in the direction of granting superintendents more independence in decision making than they granted them in 1979. On the other hand, superintendents have not significantly altered their perceptions of the amount of discretionary authority (independence) in decision making they should be granted. However, it is important to note that superintendents, on the average, both in 1979 and 1983, perceived they should have more discretionary authority (independence) in decision making than boards in 1979 and 1983 perceived superintendents should be granted. The 1983 school board members and school superintendents were closer in their perceptions of the decision-making autonomy of the superintendents than were those in 1979.

An important finding in this study was that the results substantiated the hypothesis that environmental variables were related to board/superintendent perceptions concerning the amount of discretionary authority in decision making superintendents should be granted. Even though it was weak, there was a statistically significant ($p = .008$) negative correlation ($r = -.1890$) between the 1983 boards' perceptions of the amount of discretionary authority in decision making they should grant superintendents, and environment turbulence. There was also a weak, but statistically significant ($p = .01$, negative correlation ($r = -.1864$) between 1983

superintendents perceptions of the amount of discretionary authority in decision making they should be granted and environment turbulence. On the basis of this finding, it appears as if when there are rapid changes occurring in the environment, thus creating turbulence, boards tend to give their superintendents more independence in decision making.

It was also significant that 2 of the 14 environmental variables used in this study were significantly related to the boards' mean scores in 1983, and 7 of the 14 were significantly related to superintendents' mean score used to measure the amount of discretionary authority boards should grant superintendents.

The stability of the community population and the total community population accounted for most of the variance in 1983 boards DAⁿD mean scores which were used to measure the amount of discretionary autonomy in decision making that boards perceived superintendents should be granted. However, other factors such as the economic diversity of the community, the degree of community participation in voluntary organizations, and the level of pluralistic value systems of the community, in addition to total population of the community, contributed to the variance of 1983 superintendents' perceptions of the amount of decision-making autonomy they should be granted.

In summary, then, the data supported in part the hypotheses of this study designed to describe--the relationship between superintendent turnover and the three independent variables. The finding that there were

significant differences in the districts where there had been superintendent turnover since 1979 was of interest. Districts where superintendent turnover occurred had significantly higher ($p = .05$) DA$^n$D board mean scores in 1979 than did districts with the same superintendent. Possibly, "dependency" is a predictor of superintendent turnover. On the other hand, school boards may allow more independence in decision making with longevity of superintendent on the job.

Also, those districts that had experienced superintendent turnover since 1979 had a significantly greater ($p = .02$) change in the boards' perceptions concerning the amount of discretionary authority boards should grant to their superintendents in decision making. These boards perceived their superintendents should be granted more independence in decision making. However, this study did not examine "why" these boards felt superintendents should have more independence in decision making. Possibly these boards were not aware that they had limited the discretionary authority of their previous superintendents until the superintendents left those districts because of the perceived restrictions on their decision making. Perhaps superintendent turnover could be reduced with better communication between the board and the superintendent concerning their expectations.

The data did not support the hypothesis that the level of environmental turbulence within the community was significantly related to superintendent turnover ($p = .08$). However, the results of this study indicate there are statistically significant relationships between the management process

occurring in education (perceptions of superintendents and boards concerning the amount of discretionary authority (independence) in decision making that boards should grant to superintendents) and environment turbulence. Such a finding lends support to the assumption that school districts are open systems and the changes that occur in the external environment have an impact upon the operation of the school system. Further research is needed, however, to explain and understand the effects changing environmental variables have on educational governance. With understanding, we could improve the ability of our educational leaders by preparing them better to manage under changing conditions.

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Notes

1. See, for example, W. R. Scott, Organizations: Rational, Natural, and Open System (Englewood Cliffs, NJ: Prentice-Hall, 1981); K. E. Weick, "The Management of Organizational Change Among Loosely Couple Elements," In Change in Organizations, edited by P. Goodman (San Francisco: Jossey-Bass, 1982); F. E. Emery and E. L. Trist, Towards a Social Ecology (New York: Plenum, 1973); and R. Soder and R. L. Andrews, "University/ District Collaboration on Effective Schools: A Resource Enhancement Model." Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, 25 April 1984.

2. W. R. Scott, Organizations: Rational, Natural, and Open System (Englewood Cliffs, NJ: Prentice-Hall, 1981).

3. M. T. Hannan and J. H. Freeman, "The Population Ecology of Organizations," American Journal of Sociology 82, No. 5 (1977): 292-964.

4. Daniel Katz and Robert I. Kahn, The Social Psychology of Organizations, 2nd ed.(New York: John Wiley & Sons, 1978).

5. Martin Burlingame, "An Exploratory Study of Turnover and Career Modality of Public School Administrators in the State of Illinois," 1977. (ED (154-462.)

6. Iannoccone, Laurence and Frank W. Lutz. Politics, Power, and Policy: The Governing of Local School Districts. Columbus, Ohio: Charles Merrill, 1970.

7. Burlingame, "An Exploratory Study," 1977.

8. F. E. Emery and E. L. Trist, "The Causal Texture of Organizational Environments," Human Relations 18 (1965); and Katz and Kahn, The Social Psychology of Organizations, 1978.

9. Alan Mukensnabl, "The Relationship Between School Board Members and Superintendent Expectations for Decision-Making Behavior," Dissertation Abstracts 42 (1981), and Dissertation.

10. Ibid.